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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/425,088
Filing Date: October 22, 1999
Appellant(s): SINHA, HIMANSHU S.

Joel Wall (Reg. No. 25,648)
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 6/25/2004.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

Appellant's brief includes a statement that claims 1, 11, 16, and 17 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

6,243,396	SOMERS	6-2001
6,272,110	TUNNICLIFFE et al.	8-2001
6,446,200	BALL et al.	9-2002

6,117,188	ARONBERG et al.	9-2000
6,442,608	KNIGHT et al.	8-2002

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-5, 7-10, and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 6,243,396 to Somers in view of U.S. Patent Number 6,272,110 to Tunnicliffe et al..

As to claim 1, Somers teaches a system having a client computer system and a service provider computer system programmed with a service implementation, an apparatus comprising: a service level agreement manager disposed between the client computer system and the service implementation (In col. 10, lines 66-67 and col. 11, lines 1-48, the customer communicates with the authority. In col. 2, lines 62-27 and col. 3, lines 1-3, the authority controls the resources. The customer is a client, the authority is a service level agreement manager, and the resource is a service implementation.), the service level agreement manager comprising: an admission controller configured to control admission of the client computer system to the service implementation using a service level agreement (col. 10, lines 66-67 and col. 11, lines 1-48, The service agent implements a service level agreement to control admission.); a performance measurement module in communication with the admission controller and configured to measure performance of the service implementation (col. 10, lines 66-67 and col. 11, lines 1-48, The performance agent is a performance module.); and a specification module in communication with the admission controller and with the performance measurement module (col. 10, lines 66-67 and col. 11, lines 1-48, The configuration agent is in communication with the service agent

and also the performance agent via the service agent.); however Somers does not explicitly teach modifying an estimated capacity based of the service provider based on the measured performance.

Tunnicliffe teaches a system for measuring performance of a service implementation and modifying an estimated capacity of a service provider based on the measured performance (col. 6, lines 53-67 and col. 7, lines 1-3).

It would have been obvious to one of ordinary skill in the Computer Networking art at the time of the invention to combine the teachings of Somers regarding a service level agreement implementation with the teachings of Tunnicliffe regarding modifying an estimated capacity based on the measured performance because changing an estimated capacity provides more flexibility for clients (Tunnicliffe col. 1, lines 11-35).

As to claim 2, Somers teaches the apparatus of claim 1; however, Somers does not teach an apparatus wherein the specification module is configured to compare service implementation performance data and client usage information.

Somers does teach an apparatus wherein the service agent compares the service implementation performance data and client usage information (col. 10, lines 66-67 and col. 11, lines 1-48).

It would have been obvious to one of ordinary skill in Computer Networking art at the time of the invention to combine the teachings of Somers regarding an SLA system with the teachings of Somers regarding comparing data because service agent forwards the results of the comparison to the configuration agent (col. 10, lines 66-67 and col. 11, lines 1-48), which performs similar functions to the specification module.

As to claim 3, Somers teaches a method for service level formation, comprising: providing a service level agreement manager (col. 10, lines 66-67 and col. 11, lines 1-48, The authority.), the service level agreement manager having an admission controller, a specification module and a performance measurement module (col. 10, lines 66-67 and col. 11, lines 1-48); establishing communication between a client computer system and the service level agreement manager (col. 10, lines 66-67 and col. 11, lines 1-48, The customer interfaces the authority.); invoking the specification module of the service level agreement manager (col. 10, lines 66-67 and col. 11, lines 1-48, The configuration agent is contacted by the service agent.); obtaining performance information from the performance measurement module (col. 10, lines 66-67 and col. 11, lines 1-48, the performance sends out reports to the service agent.); obtaining usage information associated from the client (col. 10, lines 66-67 and col. 11, lines 1-48, The service agent obtains usage information from the customer.); and comparing the performance information and the usage information to determine if there exists a basis for forming a service level agreement (col. 10, lines 66-67 and col. 11, lines 1-48, The service agent forms an SLA.); however Somers does not explicitly teach modifying an estimated capacity based of the service provider based on the measured performance.

Tunnicliffe teaches a system for measuring performance of a service implementation and modifying an estimated capacity of a service provider based on the measured performance (col. 6, lines 53-67 and col. 7, lines 1-3).

It would have been obvious to one of ordinary skill in the Computer Networking art at the time of the invention to combine the teachings of Somers regarding a service level agreement implementation with the teachings of Tunnicliffe regarding modifying an estimated capacity

based on the measured performance because changing an estimated capacity provides more flexibility for clients (Tunnicliffe, col. 1, lines 11-35).

As to claim 4, the teachings of the Somers-Tunnicliffe combination make claim 3 obvious. Somers teaches a method comprising forming the service level agreement; and providing the admission controller with the specification information from the service level agreement formed (col. 10, lines 66-67 and col. 11, lines 1-48).

As to claim 5, Somers teaches a method for managing system performance, comprising: providing a service level agreement manager; providing a client organization (col. 10, lines 66-67 and col. 11, lines 1-48, The customer.); providing a service organization (col. 10, lines 66-67 and col. 11, lines 1-48, The authority.); forming a service level agreement between the client organization and the service organization (col. 10, lines 66-67 and col. 11, lines 1-48, The service agent forms an SLA.); receiving a request from the client organization to the service level agreement manager (col. 10, lines 66-67 and col. 11, lines 1-48, The customer sends a message to the service agent, which is part of the authority.); with the service level agreement manager, determining if the request is within the scope of the service level agreement (col. 10, lines 66-67 and col. 11, lines 1-48, The service agent responds to the customer by checking SLA parameters.); if the request is within the scope of the service level agreement, providing the request to a performance measurement module (col. 12, lines 62-67 and col. 13, lines 1-16, The performance agent analyzes traffic associated with the resource.) and to the service organization (col. 11, lines 49-62); taking at least one performance measurement associated with performance response of the service organization to the request (col. 12, lines 62-67 and col. 13, lines 1-16, The performance agent analyzes traffic associated with the resource.); and checking the at least

one performance measurement taken against the service level agreement (col. 10, lines 66-67 and col. 11, lines 1-48); however Somers does not explicitly teach obtaining a result from the service organization in response to the request and modifying an estimated capacity based of the service provider based on the measured performance.

Tunnicliffe teaches obtaining a result from the service organization in response to the request (col. 6, lines 53-67 and col. 7, lines 1-3) and a system for measuring performance of a service implementation and modifying an estimated capacity of a service provider based on the measured performance (col. 6, lines 53-67 and col. 7, lines 1-3).

It would have been obvious to one of ordinary skill in the Computer Networking art at the time of the invention to combine the teachings of Somers regarding a service level agreement implementation with the teachings of Tunnicliffe regarding modifying an estimated capacity based on the measured performance because changing an estimated capacity provides more flexibility for clients (Tunnicliffe col. 1, lines 11-35).

As to claim 7, Tunnicliffe teaches providing a result obtained to a client (col. 6, lines 53-67 and col. 7, lines 1-3).

As to claim 8, Somers teaches a network, comprising: a plurality of service level managers (col. 10, lines 66-67 and col. 11, lines 1-48); at least one invocation infrastructure for communication between a plurality of client processes and the plurality of service level managers (col. 5, lines 48-53); and each service level manager of the service level managers in communication with a respective service implementation (col. 2, lines 62-27 and col. 3, lines 1-3) and configured to: receive a request from at least one of the client processes (col. 10, lines 50-65), determine whether to accept the request based on an estimated capacity of a service provider

(col. 10, lines 50-65, The client either accepts or rejects a service offer.), accept the request when the estimated capacity is adequate (col. 10, lines 50-65); however Somers does not explicitly teach modifying an estimated capacity based of the service provider based on the measured performance.

Tunnicliffe teaches a system for measuring performance of a service implementation and modifying an estimated capacity of a service provider based on the measured performance (col. 6, lines 53-67 and col. 7, lines 1-3).

It would have been obvious to one of ordinary skill in the Computer Networking art at the time of the invention to combine the teachings of Somers regarding a service level agreement implementation with the teachings of Tunnicliffe regarding modifying an estimated capacity based on the measured performance because changing an estimated capacity provides more flexibility for clients (Tunnicliffe col. 1, lines 11-35).

As to claim 9, the Somers- Tunnicliffe combination makes claim 8 obvious. Somers teaches a network wherein the invocation infrastructure comprises a Common Object Request Broker Architecture (col. 5, lines 48-53).

As to claim 10, the teachings of the Somers- Tunnicliffe combination make the teachings of claim 8 obvious; however the Somers- Tunnicliffe combination does not teach an infrastructure comprising Java Remote Method Invocation.

Official notice is taken that it was well known in the Computer Networking art at the time of the invention to use Java Remote Method Invocation at the time of the invention.

It would have been obvious to one of ordinary skill in the art of Computer Neworking at the time of the invention to combine the teachings of the Somers- Tunnicliffe combination

regarding service level agreements with Java RMI because Java RMI is a standard way to create distributed applications such as SLA's.

As to claim 12, Somers teaches a network, comprising: a client process (col. 10, lines 66-67 and col. 11, lines 1-48); a first plurality of service level managers (Figure 1 shows a plurality of authorities, which function as service level managers); at least one invocation infrastructure for communication between said first plurality of service level managers and said client process (col. 10, lines 66-67 and col. 11, lines 1-48, the system uses KQML messages.); each service level manager of said first plurality of service level managers in communication with a respective service implementation of a first plurality of service implementations (Figure 1 shows the authorities in contact with a plurality of service implementations (resources).); each said service implementation of said first plurality of service implementations in communication with at least one service level manager of a second plurality of service level managers (In Figure 1, the service implementations are in contact with other service level managers via their respective service level manager.); and each service level manager of said second plurality of service level manager in communication with a respective service implementation of a second plurality of service level implementations (In Figure 1, each service level manager is connected to a plurality of service implementations.), wherein at least one of the first plurality and second plurality of service level managers to configured to: receive a request from at least one of the client processes (col. 10, lines 50-65), determine whether to accept the request based on an estimated capacity of a service provider (col. 10, lines 50-65, The client either accepts or rejects a service offer.), accept the request when the estimated capacity is adequate (col. 10, lines 50-65);

however Somers does not explicitly teach modifying an estimated capacity based of the service provider based on the measured performance.

Tunnicliffe teaches a system for measuring performance of a service implementation and modifying an estimated capacity of a service provider based on the measured performance (col. 6, lines 53-67 and col. 7, lines 1-3).

It would have been obvious to one of ordinary skill in the Computer Networking art at the time of the invention to combine the teachings of Somers regarding a service level agreement implementation with the teachings of Tunnicliffe regarding modifying an estimated capacity based on the measured performance because changing an estimated capacity provides more flexibility for clients (Tunnicliffe col. 1, lines 11-35).

As to claim 13, it features the same limitations as claim 9 and is thus rejected on the same basis as claim 9.

As to claim 14, it features the same limitations as claim 10 and is thus rejected on the same basis as claim 10.

Claims 11 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 6,243,396 to Somers in view of U.S. Patent Number 6,272,110 to Tunnicliffe et al. as applied to claims 8 and 12, respectively, above, and further in view of U.S. Patent Number 6,446,200 to Ball et al..

As to claim 11, the Somers-Tunnicliffe combination makes claim 8 obvious; however the Somers- Tunnicliffe combination does not teach the use of http in the invocation infrastructure.

Ball teaches a network wherein the invocation infrastructure comprises http (col. 8, lines 1-24).

It would have been obvious to one of ordinary skill in the Computer Networking art at the time of the invention to combine the teachings of Somers- Tunnicliffe regarding the implementation of a service level agreement with the teachings of Ball regarding the use of http in an invocation infrastructure because the use of http reflects the clients interactions with a service system (Ball, col. 8, lines 1-24).

As to claim 15, it features the same limitation as claim 11 and is thus rejected on the same basis as claim 11.

Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 6,243,396 to Somers in view of U.S. Patent Number 6,272,110 to Tunnicliffe et al. as applied to claim 8 above, and further in view of U.S. Patent Number 6,117,188 to Aronberg et al. and U.S. Patent Number 6,442,608 to Knight et al..

As to claim 16, the teachings of the Somers- Tunnicliffe combination make claim 8 obvious; however they do not teach the use of tokens for service provisioning.

Knight teaches a network wherein each of the plurality of client processes is assigned a number of sessions and when determining whether to accept a request from a first client process to a first service level manager, the first service level manager is further configured to determine whether to accept the request based on the number of sessions associated with the first client process (col. 23, lines 33-67, col. 24, lines 1-67, and col. 25, lines 1-48); however Knight does not explicitly teach the use of tokens associated with a client process.

Aronberg teaches the use of a fixed number of tokens used to regulate network access (col. 4, lines 56-67 and col. 5, lines 1-30).

It would have been obvious to one of ordinary skill in the Computer Networking art at the time of the invention to combine the teachings of Knight regarding keeping track of sessions associated with client processes with the teachings of Aronberg regarding the use of tokens because tokens provide a functional alternative to the counter as implemented by Knight.

It would have been obvious to one of ordinary skill in the Computer Networking art at the time of the invention to combine the teachings of the Somers- Tunnicliffe combination regarding the implementation of service level agreement with the teachings of the Knight-Aronberg combination regarding using tokens to limit access to a particular client process because limiting access of specific clients would ensure a more consistent level of service for all clients (Knight, col. 1, line 53-col. 2, line 12 and col. 3, lines 36-46).

As to claim 17, Knight teaches a network wherein when a request from a client process is accepted, a first service level manager is configured to deduct a count associated with the first client process (col. 23, lines 33-67, col. 24, lines 1-67, and col. 25, lines 1-48). For reasons discussed in the rejection of claim 16 it would have been obvious to use tokens instead of a count.

(11) Response to Argument

The appellant argues that the Tunnicliffe reference does not disclose modifying an estimated capacity of the service provider based on the measured performance, as recited in claim 1. Tunnicliffe discloses that a network operator predicts short-term demand on a network based on the measured performance (col. 5, lines 36-46). The examiner is not equating demand on a network to capacity as asserted by the appellant. However if the estimated demand for a

service is known, then the estimated unused capacity of a service would be found by subtracting the estimated demand from the total bandwidth capacity of the service which is also known. Therefore by measuring estimated demand, Tunnicliffe is also providing a measure of estimated capacity.

Also with respect to claim 1, the appellant argues that there is not proper motivation for combining Somers and Tunnicliffe. However, Somers and Tunnicliffe both teach implementations of service level agreements between clients and a service. One motivated to provide smoother and more flexible customer service in a service level agreement system like that of Somers would look to Tunnicliffe for reasons discussed in col. 1, lines 11-35 of Tunnicliffe.

The appellant argues that the portion of Ball cited in the rejection of claim 11 is not equivalent to an invocation infrastructure that communicates between a plurality of client processes and a plurality of service level managers, where the invocation infrastructure comprises hypertext transfer protocol (HTTP). However, Ball is not relied upon in the rejection of claim 11 to show an infrastructure that communicates between client processes and service level agreements. Somers and Tunnicliffe are relied to show these features. Though Somers and Tunnicliffe may not explicitly discuss the use of http, it can be assumed that they can monitor http traffic since http is prevalent in any network communication having clients using a browser. Ball is relied upon merely to show that a monitoring program, such as the accounting process taught by Ball, can capture http.

Also with respect to claim 11, the appellant argues that the alleged motivation for combining the Somers-Tunnicliffe combination with Ball is merely a conclusory statement

regarding http. However Somers and Tunnicliffe are inventions that are both used to provide service level agreements to clients over networks. The use of HTTP for clients to communicate in a network is well known to anyone that has ever used a web browser over a network. The use of HTTP in any networking infrastructure is well known. The Ball reference is simply used to reinforce this point.

With respect to claim 16, the appellant argues that Aronberg does not disclose determining whether to accept a request based on the number of tokens associated with a client process. However, Aronberg is not relied upon in the rejection to show disclose "determining whether to accept a request based on the number of tokens associated with a client process" in the rejection of claim 16. Rather, Aronberg is used to show that the use of a fixed number of ***tokens*** used to regulate network access is an obvious concept. Knight is relied upon to show a system for deciding whether to accept a request based on a number of sessions associated with the first client.

Also with respect to claim 16, the appellant argues that no portion of any of the four references is pointed to as providing objective motivation for combining the disclosures of Aronberg and Knight with the combination of Somers and Tunnicliffe. However the motivation for combining the Knight-Aronberg combination with the teachings of the Somers-Tunnicliffe combination, as supplied by the examiner previously, can be found in the background of Knight (See col. 1, line 53-col. 2, line 12 and col. 3, lines 36-46).

And finally with respect to claim 16, the appellant argues that Knight and Aronberg are clearly directed to different environments and appellant asserts that it would not have been obvious to combine features from these disparate environments without the benefit of the

appellant's disclosure. However, Knight and Aronberg are both systems that limit access to a network resource. In such a context it would be obvious to combine features from the two references. Knight is relied upon to show a system for deciding whether to accept a request based on a number of sessions associated with the first client. The tokens taught by Aronberg are one such way to keep track of a number of sessions.

With respect to claim 17, the appellant argues that assigning sessions to an entity, such as a company as in Knight, is not equivalent to assigning sessions to each of a plurality of client processes. However each entity in Knight is accessing the network access server taught by Knight through some form of client process, therefore assigning session to an entity can be considered assigning sessions to each of plurality of client processes.

Also with respect to claim 17, the appellant argues that Knight comparing the local session threshold value with the local session counter value to determine whether to authorize a request is not equivalent to and does not suggest deducting a number of sessions or tokens from a first client process if the request is accepted. However, in Knight each time a request is accepted the threshold value is incremented making the threshold value one closer to the local session counter value and thus deducting a number of sessions available to a client process. In other words if one more session is being used then one less is available in Knight.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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September 13, 2004

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